

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (CURRENTLY AMENDED) ~~A lens~~ A lens array, comprising:
multiple lenses in a monolithic structure, for collecting light from a light source
having plural sides, wherein the an array of multiple LED light sources;
wherein each LED light source emits divergent light, comprising; at least one lens
having
wherein for each LED light source there is a lens having a compound shape
including curved surfaces that are distributed around of the that is
distributable around the LED light source, wherein the curved surfaces
may have an offset and
wherein each lens has a spherical or an offset-aspheric shape relative to its
respective LED light source.
2. (CURRENTLY AMENDED) The lens array of claim 1, wherein the each lens includes a
curved surface and a flat surface, the curved surface being equidistant from the center
line of the LED light source and the flat surface being perpendicular to the center line.
flat top portion separating the curved surfaces.
3. (CURRENTLY AMENDED) The lens array of claim 1, wherein the each of the offset
spherical or aspheric surfaces are equidistance offset from a center line extending
through the each LED light source.
4. (CURRENTLY AMENDED) The lens array of claim 1, wherein the lens each of the
lenses is symmetric about a center line extending through the each LED light source.

5. (CURRENTLY AMENDED) The lens array of claim 1, wherein ~~the lens~~ each of the lenses includes sections that collect light from respective portions of ~~the~~ each LED light source.
6. (CURRENTLY AMENDED) The lens array of claim 5, wherein each lens section ~~curved section of the lens~~ includes geometry that is optimized for each portion of ~~the~~ each LED light source from which that each section of the lens collects light.
7. (CURRENTLY AMENDED) The lens array of claim 1, wherein ~~the lens~~ each of the lenses includes an offset aspheric shape.
8. (CURRENTLY AMENDED) The lens array of claim 7, wherein ~~the lens includes~~ each of the lenses has a faceted surface that approximates the offset aspheric shape.
9. (CURRENTLY AMENDED) The lens array of claim 8, wherein each of the faceted surfaces ~~have~~ has a symmetrically circular shape.
10. (CURRENTLY AMENDED) The lens array of claim 8, wherein each of the faceted surfaces ~~have~~ has a square tile pattern.
11. (CURRENTLY AMENDED) The lens array of claim 10, wherein the square tile pattern fully fills a surface of ~~the lens~~ each of the lenses.
12. (CURRENTLY AMENDED) The lens array of claim 10, wherein the square tile pattern is formed from micro-pyramids.

13. (CANCELLED)
14. (CANCELLED)
15. (CANCELLED)
16. (CANCELLED)
17. (CANCELLED)
18. (CANCELLED)
19. (CURRENTLY AMENDED) The LED module of ~~claim 14~~ claim 42 further comprising the predetermined LED array to form an LED module, wherein ~~the spherical surfaces are equidistance~~ have a spherical or an aspheric shape from a center line extending through the ~~light source~~ LED.
20. (CURRENTLY AMENDED) The LED module of claim 19 ~~claim 18~~, wherein the each lens is symmetric about a center line extending through the ~~light source~~ LED.
21. (CANCELLED)
22. (CURRENTLY AMENDED) The LED module of claim 19 ~~claim 14~~, wherein each section of the each lens includes geometry that is optimized for each portion of the ~~light source~~ LED from which that section of the each lens collects light.
23. (CURRENTLY AMENDED) The LED module of claim 19 ~~claim 14~~, wherein the each lens includes an offset aspheric shape.
24. (CURRENTLY AMENDED) The LED module of claim 23, wherein ~~the~~ each lens includes a faceted surface that approximates the offset aspheric shape.

25. (CURRENTLY AMENDED) The LED module of claim 24, wherein the faceted surface of each lens has a symmetrically circular shape.
26. (CURRENTLY AMENDED) The LED module of claim 24, wherein the faceted surface of each lens has a square tile pattern.
27. (CURRENTLY AMENDED) The LED module of claim 26, wherein the square tile pattern fully fills a surface of the each lens.
28. (ORIGINAL) The LED module of claim 26, wherein the square tile pattern is formed from micro-pyramids.
29. (CANCELLED)
30. (CURRENTLY AMENDED) A method of manufacturing ~~a lens for a light source, the light source emitting divergent light,~~ an LED light module, comprising:
providing at least one lens having determining a configuration for an array of lenses so that there is a separate lens for each LED,
wherein each lens has a compound shape including curved surfaces a curved surface that is are distributed around the light source, ~~wherein the curved surfaces may have an offset spherical or an offset aspherical shape~~ an LED, and
wherein each lens having a compound shape that includes curved surfaces separated by a flat surface,
the lens being disposed over an LED so that light from each side of the LED is projected into a respective curved surface; and

each curved surface is centered about a radius R extending from a center point that lies directly above an imaginary light point source on each of the LED's sides so that each curved surface is effectively a plano-convex lens centered over a side.

31. (CANCELLED)
32. (CURRENTLY AMENDED) The method of claim ~~34~~ 30, wherein the lens array is ~~formed in a mold~~ monolithically molded.
33. (CURRENTLY AMENDED) The method of claim ~~34~~ 30, wherein each lens in the lens array ~~includes~~ is fabricated by machining faceted surfaces into the lens array.
34. (CURRENTLY AMENDED) The method of claim 33, wherein the shape of the lens array is formed ~~in the mold~~ by machining a mold using a drill bit-type tool.
35. (CURRENTLY AMENDED) The method of claim 34, wherein each lens in the lens array is machined using a circularly symmetric pattern.
36. (CURRENTLY AMENDED) The method of claim 33, wherein the shape of the lens array is formed ~~in the mold~~ by machining a mold using a surface lathe, router, or grinder.
37. (CURRENTLY AMENDED) The method of claim 36, wherein each lens in the lens array is ~~formed of~~ machined using micro-pyramids in a square tile pattern.

38. (CURRENTLY AMENDED) The method of claim 32, wherein the lens array is formed of a by molding potting gel.
39. (CURRENTLY AMENDED) The method of claim ~~34~~ 30, wherein the lens array is formed of glass.
40. (ORIGINAL) The method of claim 39, wherein each lens in the lens array is circularly symmetric.
41. (ORIGINAL) The method of claim 39, wherein each lens in the lens array is formed of micro-pyramids in a square tile pattern.
42. (NEW) A lens array comprising:
multiple lenses in a monolithic array structure for collecting light from a
predetermined array of multiple LED light sources,
each lens having a compound shape that includes curved surfaces separated by
a flat surface;
the lens being disposed over an LED so that light from each side of the
LED is projected into a respective curved surface; and
each curved surface is centered about a radius R extending from a center
point that lies directly above an imaginary light point source on
each of the LED's sides so that each curved surface is effectively
a plano-convex lens centered over a side.
43. (NEW) The lens array as in claim 42 wherein the curved surface is spherical.

- 44. (NEW) The lens array as in claim 42 wherein the curved surface is aspherical.
- 45. (NEW) The lens array as in claim 42 wherein the curved surface is faceted.
- 46. (NEW) The lens array as in claim 42 wherein the curved surface is a micro-pyramid.